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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			EXAMINER MCCULLEY, MEGAN CASSANDRA	
			ART UNIT	PAPER NUMBER
			1796	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,785	Applicant(s) WEHNER, JOCHEN	
	Examiner Megan McCulley	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 is unclear since it is dependent on claim 17, which requires the step of at least partial curing of the mixture. It is unclear how the material can be not cured after undergoing this step. For the purpose of further examination, it is taken to mean that the gel coat material is not completely cured at the time when it is brought into contact with the synthetic resin.

Claim 4 is unclear as to which are the possible reinforcing materials. The first part of the claim lists glass fiber fabric, glass fiber nonwoven, plastic fiber fabric, or carbon fiber bonded fabric, while in the second part of the claim, the reinforcements are limited to glass fiber fabric or glass fiber nonwoven. For the purpose of further examination, the list in the first part of claim is taken to be possible reinforcing materials.

Claim 4 further limits the synthetic resin to an epoxy resin or an injection resin. It is unclear what an injection resin is, but it is further not within the bounds of the required epoxy resin or vinyl ester resin set forth in claim 17, from which claim 4 depends.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2, 3, and 5-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (U.S. Pat. 6,046,297) in view of Sondhe et al. (U.S. Pat. 5,340,652).

Regarding claims 12, 15, 17 and 18: Rosenberg et al. teaches mixing a polyol component comprising a low molecular weight polyol (col. 4 lines 32-39), such as tetraethylene glycol (col. 4 line 37), which has a calculated molecular weight of 194 g/mol and a calculated hydroxyl group concentration of 10.3 mol OH/kg polyol., which fall within the claimed ranges, a high molecular weight polyol (col. 3 lines 60-67) of the general formula $\text{HO}(\text{RO})_n\text{H}$ wherein R is an alkylene radical (col. 4 lines 1-9). This formula shows there are 2 hydroxyl groups, and with the molecular weight given to be 500-3000 (col. 3 line 63), the calculated hydroxyl group concentration is 0.67-4 mol OH/kg polyol, which overlap the claimed ranges. Further, a diisocyanate (col. 3 line 38) is mixed, which is a polyisocyanate. Rosenberg et al. further teaches adding 4,4'-methylene-bis-(3-chloro-2,6-diethylaniline) (MCDEA) (col. 1 line 64 and col. 5 line 63), which is a light resistant aromatic amine. At least partial curing is taught (col. 6 line 5).

Rosenberg et al. does not teach bringing the mixture into contact with a synthetic resin no cured or not completely cured. However, Sondhe et al. teaches mixing (col. 13 line 31) a composition comprising an aromatic amine (col. 3 line 3), and a polyol component and a polyisocyanate component (abstract). Sondhe et al. also teaches that

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upon mixing, the urethane system will immediately commence reaction (col. 13 lines 33-35), therefore it is at least partially cured. Also disclosed is application to an epoxy, which is not fully cured (col. 3 lines 59-62). Sondhe et al. and Rosenberg et al. are analogous art because they are both concerned with the same field of endeavor, namely polyurethane compositions cured with aromatic amines. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the composition of Rosenberg et al. with the process of Sondhe et al. and would have been motivated to do so for such desirable properties as longer pour life, reduced tendency to crack, and reduced presence of toxic free toluene diisocyanate monomers, as evidenced by Rosenberg et al. (col. 1 lines 14-16).

The process of the above combination would implicitly yield a synthetic resin composite material.

Regarding claim 2: While Rosenberg et al. does not directly teach that the gel coat at 23°C displays an elongation at break (measured as per DIN EN ISO 527) of at least 3%, since all of the components are present in the composition it is inherent that the composition would have these properties. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with these properties.

Regarding claim 3: Rosenberg et al. does not teach the polyurethane gel coat is not completely cured. However, at the time of the invention a person having ordinary

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skill in the art would have found it obvious to not completely cure the polyurethane gel coat based on the teaching of Sondhe et al. and would have been motivated to do so since this would allow the urethane to bleed and intermingle with the epoxy in order to form chemically fused layers, as evidenced by Sondhe et al. (col. 3 lines 57-68).

Regarding claims 5, 6, 7, and 8: Rosenberg et al. teaches 4,4'-methylene-bis-(3-chloro-2,6-diethylaniline) (MCDEA) (col. 1 line 64 and col. 5 line 63), which is a 4,4'-methylenebis (2,6-dialkyl-aniline). As evidenced by paragraphs 60-63 of the Pre-Grant Publication of the instant application, this particular aromatic amine when subjected to the limitations found in claims 5 and 6 of the instant application inherently gives the desired gel time and color shade change. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with these properties.

Regarding claim 9: Rosenberg et al. teaches the basic claimed composition as set forth above. Not disclosed is the amount of the aromatic amine in the polyol component. However, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. See *In re Aller*, 105 USPQ 233 and MPEP 2144.05. At the time of the invention a person having ordinary skill in the art would have found it obvious to optimize the amount of the aromatic amine and would have been motivated to do so for such desirable properties as completely reacted TDI monomers, as

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evidenced by Rosenberg et al. (col. 2 lines 8-14) since they are toxic. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. See *In re Boesch and Slaney*, 205 USPQ 215.

Regarding claims 10 and 11: Rosenberg et al. teaches the basic claimed composition as set forth above. Not disclosed is the amount of the low molecular weight polyol. However, this is a result effective variable that can be optimized. At the time of the invention a person having ordinary skill in the art would have found it obvious to optimize the amount of the low molecular weight polyol and would have been motivated to do so for such desirable properties as sufficient chain extending of the prepolymer to form a polyurethane elastomer to form an easily applicable polyurethane elastomer with the desired viscosity.

Regarding claim 13: Rosenberg et al. teaches a low molecular weight polyol which is tetraethylene glycol (col. 4 line 37), which is a polyether polyol.

Regarding claim 14: Rosenberg et al. teaches the high molecular weight polyol can be a polyether polyol or a polyester polyol (col. 3 lines 60-61

Regarding claim 16: Rosenberg et al. teaches the basic claimed composition as set forth above. Not disclosed is the amount of the high molecular weight polyol. However, this is a result effective variable that can be optimized. At the time of the invention a person having ordinary skill in the art would have found it obvious to optimize the amount of the high molecular weight polyol and would have been

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motivated to do so for such desirable properties as sufficient strength in the cured product.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (U.S. Pat. 6,046,297) in view of Sondhe et al. (U.S. Pat. 5,340,652) as applied to claim 17 and in further view of Motsinger et al. (U.S. Pat. 3,217,536).

Regarding claim 4: Rosenberg et al. teaches the basic process as set forth above. Not disclosed is the synthetic resin is a reinforced contains reinforcing materials. However, Motsinger et al. teaches a polyurethane coating on a epoxy resin laminated with fiberglass (col. 3 line 66-col. 4 line 1). Rosenberg et al. and Motsinger et al. are analogous art because they are both concerned with the same field of endeavor, namely products coated with epoxy resins and polyurethanes. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the fiberglass laminated epoxy of Motsinger et al. with the composition of Rosenberg et al. and would have been motivated to do so for such desirable properties as to provide strength and weather protection, as evidenced by Motsinger et al. (col. 4 lines 1-14).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (U.S. Pat. 6,046,297) in view of Sondhe et al. (U.S. Pat. 5,340,652) as applied to claim 18 and in further view of Motsinger et al. (U.S. Pat. 3,217,536).

Regarding claim 19: Rosenberg et al. teaches the basic material as set forth above. Not disclosed is that it is part of a wind vane. However, Motsinger et al. teaches a similar material on a wind vane, in that it measures wind currents (col. 1 lines 50-55). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the use of Motsinger et al. with the composition of Rosenberg et al. and would have been motivated to do so since a wind vane needs to be strong and weather resistant, as evidenced by Motsinger et al. (col. 4 lines 1-14).

Response to Arguments

Applicant's arguments with respect to claims 2-19 have been considered but are moot in view of the new ground(s) of rejection. However, the arguments pertaining to the new ground(s) of rejection are addressed below.

A) Applicant's argument that Rosenberg et al. teaches reacting a polyol and a diisocyanate and subsequently reacting with an amine while the instant application reacts a polyol with an amine and subsequently reacts with an isocyanate is not persuasive. No order of reacting the reactants is claimed. In fact, the claimed step is "mixing" and lists the components, which apparently will cause a reaction. Therefore, as Rosenberg et al. mixes the reactants, the claim limitations are met, and further it is the Office's position that the final product would be the same regardless of the order of mixing. Evidence to the contrary would need to be provided.

B) In response to applicant's arguments against the Sondhe et al. reference individually, one cannot show nonobviousness by attacking references individually

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where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

C) Applicant's argument that a person having ordinary skill in the art would not look to Sondhe et al. since the reference does not use any aromatic components is not persuasive. The motivation to not use aromatic components given in Sondhe et al. is to prevent yellowing. Yet a light-resistant aromatic amine would also prevent yellowing since sunlight is the cause of resin yellowing. Therefore, the motivation to add a light-resistant aromatic amine is the same as a concern that Sondhe et al. discloses.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Megan McCulley whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo, Ph.D./
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15-Sep-08

/M. M./
Examiner, Art Unit 1796

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